## Abstract of the Disclosure

In a method of compressing a lookup table for reducing memory, a non-linear function generating apparatus having a lookup table compressed using the method, and a non-linear function generating method, X-coordinates of the non-linear function are

5    separated into a plurality of sections including steps that have predetermined step sizes. Y-coordinate values corresponding to X-coordinate values are extracted for each step. The Y-coordinate values are stored in predetermined addresses in a memory, wherein the step sizes are different according to the sections.   In this manner, memory capacity occupied by the lookup table is reduced.

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